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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,510

01/04/2006

Kazutoshi Nomoto

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EXAMINER

DIAO, M BAYE

ART UNIT

PAPER NUMBER

2838

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,510	<b>Applicant(s)</b> NOMOTO, KAZUTOSHI	
	<b>Examiner</b> M'BAYE DIAO	<b>Art Unit</b> 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06/07/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/04/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Amendment***

1. Acknowledgement is made of Preliminary Amendment filed on 01/04/2006, in which the title of the invention has been changed from "ELECTRONIC EQUIPMENT, POWER SOURCE MANAGEMENT CONTROL DEVICE FOR ELECTRONIC EQUIPMENT, AND POWER SOURCE DEVICE" to -- ELECTRONIC EQUIPMENT AND POWER MANAGEMENT METHOD FOR THE ELECTRONIC EQUIPMENT, AND POWER SOURCE UNIT --.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) filed on 01/04/2006 has been considered and placed of record. An initialed copy is attached herewith.

### ***Specification***

2. The disclosure should be carefully reviewed to ensure that any and all grammatical, idiomatic, and spelling or other minor errors are corrected.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**4. Claims 1-2,5-7,12,14-17, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibasaki et al., (Shibasaki) US PAT 5,475,271 in view of Pearson US PAT 6,555,989 .**

As per claims 1-2, 5-7,12,14-17, and 20-22, Shibasaki discloses (abstract; col. 5, lines 26+; col. 6, lines 1 to col. 7, line 40) and shows in Figs. 1A-1C:

a power source equipment (combination of (1) and (2)) connected via a predetermined bus (10) to a predetermined electronic equipment body (not shown but connected to the expansion unit (2)) at least having processing means (11) for executing various processes and consuming power (via connection of input terminal (5) to (CC,B-CC), see col. 5, lines 25-54), for supplying power to the electronic equipment body ( via output plug (6)), the electronic equipment (1,2) characterized by comprising:

a secondary battery (22A or 22B);

secondary battery control means (201)for controlling the secondary battery.

Shibasaki differs from the claimed invention because he does not disclose the limitation of," a fuel cell which causes a predetermined fuel and air to electrochemically react with each other so as to cause a power generating unit to generate power; and

fuel cell control means for controlling the fuel cell, wherein the secondary battery control means and the fuel cell control means mutually transfer at least remaining secondary battery power information indicative of an amount of power remaining in the secondary

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battery and fuel cell status information indicative of a status of the fuel battery, to each other via the bus.”

Pearson discloses (abstract; cols. 4-7) and shows in Fig. 1:

a fuel cell stack (5) which causes a predetermined fuel (methane (12), which obviously is on a container or tank, as per claims 7 and 22) and air (hydrogen, and ambient air (14), see col.4, lines 37+) to electrochemically react with each other (via subsystem (10)) so as to cause a power generating unit (by being controlled in accordance with various input signals, such as (30) which turns on reactant subsystem (10) when mains power source (2) is down or if the state of charge of battery (7) is unacceptably low, see col. 6, lines 22+); and

and fuel cell control means ((10) via signals 33,32, and computing unit 63) for controlling the fuel cell (5), wherein the secondary battery control means (61) and the fuel cell control means (10) mutually transfer at least remaining secondary battery power information indicative of an amount of power remaining in the secondary battery (7) and fuel cell (5) status information indicative of a status of the fuel battery (5), to each other via the bus (via signals (65,67,69 for the secondary battery and via signal (31) for the fuel cell (5)).

Pearson is evidence that ordinary workers in the art would find a reason, suggestion or motivation to include in the power source equipment for the electronic device a back up and load leveler hybrid fuel cell battery.

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Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Shibasaki with Pearson by including in the power source device a fuel cell which causes a predetermined fuel and air to electrochemically react with each other so as to cause a power generating unit to generate power; and fuel cell control means for controlling the fuel cell, wherein the secondary battery control means and the fuel cell control means mutually transfer at least remaining secondary battery power information indicative of an amount of power remaining in the secondary battery and fuel cell status information indicative of a status of the fuel battery, to each other via the bus, for advantages of providing an uninterruptible power supply as per the teachings of Pearson, (col. 3, lines 49-50).

Accordingly, claims 1-2,5-7,12,14-15, and 16-17,20-22 would have been obvious.

As per claims 8-11, Shibasaki when combined with Pearson differs from the claimed invention because they only disclose the secondary battery and the secondary battery controller, and the fuel cell and the fuel cell controller being part of the main body (1) and as a single package. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the construction of the secondary battery and the secondary battery controller along with the fuel cell and the fuel cell controller to be externally connected as a single package, as recited in claim 8, and to make the construction of fuel cell and the fuel cell controller as a single package and externally connected to the body via the bus or alternatively make the secondary battery and the secondary battery controller constructed as a single package and externally

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connected to the body, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

5. Accordingly, claims 8-11 would have been obvious.

**6. Claims 3-4, 13, 18-19, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibasaki et al., (Shibasaki) in view of Pearson, and further in view of De Boois et al., (De Boois) US PAT 6,069,465.**

7. As per claims 3 and 18, and 4 and 19, Shibasaki when modified by Pearson discloses that the signal ((30), see Pearson, col. 6, lines 37-50) is indicative of the load conditions whether to give the subsystem (10) the green light to supply power to the fuel cell stack (5) or not but Pearson differs from the claimed invention because he does not specifically disclose that the fuel cell control means sets a plurality of operating modes for the fuel cell.

8. De Boois discloses ( ) and shows in Fig. 1, a group control system (1) for lighting devices comprising sets 2, 3, 4 of motorized light regulating assemblies (5), wherein each set of light regulating assemblies (5) is connected to a data and power transmission line (9),(9') and via a sub master unit (10). The combined data and power transmission lines (9), (9'), (9'') comprise a two-wire bidirectional 300 baud half-duplex (as per claims 13 and 23) line supplying the (24 V) DC supply voltage to the control units (6), (6)' and transmitting data pulses to the control units. De Boois further discloses that Each group control unit (11-11'') and the main control unit (12) comprises a dial (as per claims 3-4, and 18-19) for selecting (32) blind positions. The selected blind position will be transmitted to each control unit (6),(6') and to other group control units connected to

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the combined 24 V supply and data communication output terminal of the operated group control unit

9. Accordingly claims 3-4,13,18-19, and 23 would have been obvious.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related apparatus.

11. Bourilkov et al., (Bourilkov) US 2004/0174072 discloses a fuel cell hybrid power supply.

12. Pearson et al., (Pearson) US 2004/0126632 discloses a regenerative fuel cell power plant and operating method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M'baye Diao whose telephone number is 571-272-6127.

The examiner can normally be reached on 8:30-5:00; First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on Monday through Friday at 571-272-2361.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Akm Enayet Ullah/  
Supervisory Patent Examiner, Art Unit 2838  
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